

**INPUT**

**MANAGEMENT**

**PLANNING PROGRAM**

**IN**

**FIELD SERVICE**

**MANAGEMENT PLANNING PROGRAM  
IN FIELD SERVICE**

**OBJECTIVE:** To provide senior field service executives with basic information and data to support their management of the total field service activity.

**DESCRIPTION:** Clients of this program receive the following services each year:

- Management Issue Reports - Six reports which analyze important new technical and management issues within the field service areas. Reports focus on specific issues that require timely attention by senior management.
- Planning Support Studies - Three reports that will present an in-depth analysis of major technical or management issues. They make recommendations that will assist in the formulation of major policy alternatives in the planning of field services.
- Annual Report - Services include field service technical and future requirements. F-1982  
PS 2
- Annual Presentation - Field service research and program for half of each year. F-1982  
PS 2
- Inquiry Service - Needed basic staffed every year.

**RESEARCH METHODS**  
communications, a

- Research and representation
- Research for universities
- Conclusions: professional
- Professional experience and position

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# INPUT

## FIELD SERVICE PROGRAM

FIELD SERVICE BRIEF

REVENUE OPPORTUNITIES IN  
FIELD SERVICE

NOVEMBER 1982



## REVENUE OPPORTUNITIES IN FIELD SERVICE

### ABSTRACT

This brief examines potential revenue opportunities for field service within the user's budget and highlights the options, including:

- Facilities planning.
- Equipment relocation.
- Training services.
- Third-party maintenance.
- Software maintenance.
- Consulting services.
- Guaranteed uptime and response premiums.
- On-site parts.
- Critical period standby.

The brief looks at ways of improving field service revenue growth in a period of economic recession, falling sales, and increased competition.



F-PS2

## REVENUE OPPORTUNITIES IN FIELD SERVICE

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## REVENUE OPPORTUNITIES IN FIELD SERVICE

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## I INTRODUCTION

- This report is part of INPUT's 1982 U.S. Field Service Program.
- The report examines the driving forces and directions of maintenance vendor organizations in seeking new sources of revenue. The principal source of service revenue - hardware maintenance - is being impacted by user resistance to price increases, hardware price reductions, and IBM's intent to gradually lower its field service price umbrella.

### A. SCOPE

- The information presented in the report is based on data from industry publications, senior consultants' personal knowledge of the industry, INPUT's research library, and a user survey conducted specifically for this topic.
- Eighty-three users of information processing equipment were interviewed with respect to their perspectives on maintenance budgeting and pricing.

### B. REPORT ORGANIZATION

- An Executive Summary of trends, user perspective, conclusions, and recommendations is presented in Chapter II. This assembles the principal findings in one short chapter.

- Chapter III is dedicated to a maintenance vendor's perspective of the driving forces and trends in the management of profitability within field service. Emphasis in the chapter is on developing the trends in revenue sources.
- The user's perspective on maintenance budgeting and pricing is examined and presented in Chapter IV. This is a crucial aspect of the problem since user requirements and judgments on acceptable levels of maintenance are key to the success (or otherwise) of service programs proposed by vendors.

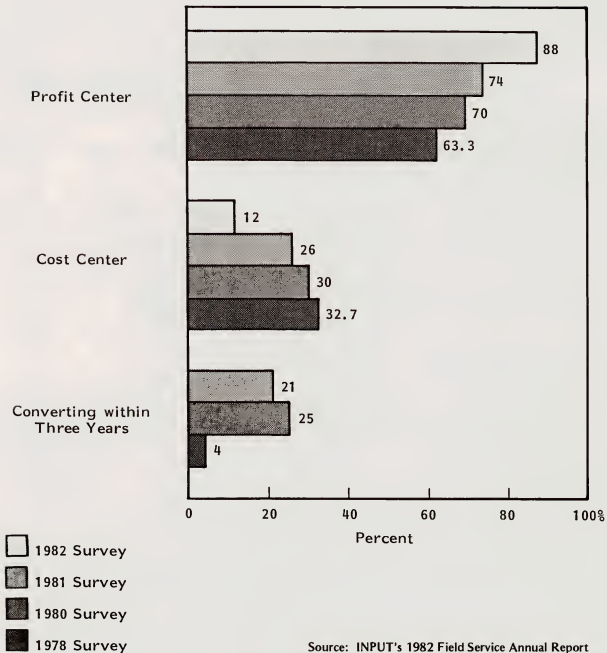
## II EXECUTIVE SUMMARY

### A. DRIVING FORCES

- Almost 90% of all vendors of data processing maintenance are organized as profit centers, as shown in Exhibit II-1.
- Historically a labor-intensive industry, field service has been unable to keep pace with the price and performance improvements in hardware.
- Productivity improvements have been made over the past few years by investing more capital in maintenance functions such as:
  - Remote diagnostics and support centers.
  - Centralized dispatching.
  - Repair depots.
- Other improvements have come from the application of management sciences and operations research.
  - Queuing theory and modeling have improved productivity from 1.5:1 to over 2.0:1, without sacrificing response times, by assigning large

EXHIBIT II-1

PROFIT CENTER OR COST CENTER  
ORGANIZATION OF RESPONDING VENDORS



Source: INPUT's 1982 Field Service Annual Report

territories to service teams rather than breaking them up into dedicated, individual territories.

- The learning curve phenomenon has been applied to group and synergistic learning as well as to the product experience of the individual.
- These productivity improvements, however, have been offset by the rapidly decreasing cost of reliable products, a fact which tends to magnify the cost of maintenance to the user.
- Competitors among hardware vendors and third-party maintenance vendors are able to focus on excessive costs of owning products resulting from higher ratios of maintenance price to list price of the equipment.
- Field service management has reached the point of diminishing returns in searching for ways to lower the cost of traditional field maintenance support. They have therefore begun to focus on supplemental revenues to maintain or improve their profitability.

#### B. TRENDS

- Field service organizations first look for additional revenues through logical extensions of the maintenance function, such as:
  - Bench repairs of any components, boards, or devices which can exploit slack time in established facilities.
  - Third-party maintenance which aids by increasing density, therefore utilization.
  - Performance guarantee premiums which provide actuarial revenues analogous to insurance companies.

- A second source of revenues to field service organizations has been sales of management and production services, for example in facilities management and documentation development.
- Another source of revenues is selling ancillary devices, such as uninterruptible power supplies, exploiting established contacts and credibility.

### C. REVENUE OPPORTUNITIES FROM THE USER PERSPECTIVE

- When asked to rank the relative importance of 20 problem areas, data processing managers placed hardware maintenance no higher than 15th. Among all users maintenance averaged 17th.
- Users dedicated less than 6% of their total 1981 budgets to hardware maintenance.
  - Total EDP budgets for 1982 increased nearly 13% while maintenance budgets increased only 7%.
  - The net result is that users reduced their maintenance budgets to less than 5.5% of their total EDP budgets.
- Field service management is unable to relax as the maintenance budget becomes less and less significant. Users have been forced to trim budgets where they can during the recession.
- Users predict that their hardware maintenance costs will increase by 12.5% in 1983 and that the costs will grow at a compound rate of 12% between 1982 and 1985.
- During hard times budget cuts have been focused primarily on extra shift maintenance.

- Some users, especially those in remote locations, have indicated a willingness to become more involved in maintenance.
- When budgeting for maintenance, 60% of the users rely on maintenance vendors to supply them with projected costs rather than entering into analysis or heavy negotiations.
- About half of the users itemize maintenance costs and pass them on to other departments within their companies, thereby creating visibility of maintenance costs.
- Twenty-two percent of the users expressed a willingness to pay premiums for improvements in service, such as guaranteed response time, guaranteed uptime, on-site spares, or better trained on-site field engineers.
- One-third of the users surveyed said that visible capital improvements, like remote diagnostics, should be worth a premium.
- Seventy percent of users favor a long-term maintenance contract which would aid vendors in revenue protection.
- Two-thirds of the users favored prepaid annual billing for maintenance.
- The most vulnerable targets for third-party maintenance penetration, according to users, are the multiple vendor shops.
- All users say that they would be responsive to field engineering assistance in training development.

#### D. CONCLUSIONS AND RECOMMENDATIONS

- While there are many productivity and cost-saving improvements yet to be implemented by a large number of field service organizations, most of the

options have been introduced by one or more companies. Attempts to identify significant increases in profit potential through cost savings have reached the point of diminishing returns.

- Competition will increase, rather than stabilize, and will force all field service organizations to fight for survival through modernization and optimization of resources.
- Innovations in revenue protection, incremental revenue generation, and total revenue improvements for the field service organization are just beginning.
- Field service organizations seeking new sources of revenues should employ or designate a professional marketing specialist reporting to top field service management.
- As part of the five year plan, some or all of the following options should be considered:
  - Selling the available services of the components and circuit board repair facilities.
  - Providing warehouse and logistics support for smaller vendors.
  - Offering third-party maintenance.
  - Installing upgrades to vendor software.
  - Performing maintenance of user software.
  - Consulting on management issues in which the company is a recognized leader, for example:



- Facilities planning.
  - Foreign logistics.
  - Automation of field service planning and administration.
- Training user personnel.
- Developing documentation and training packages for smaller vendors.
- Relocating equipment in large installations.
- Selling auxiliary equipment as manufacturers' representatives.
- Charging premiums for extended services to standard contracts such as:
  - Guaranteed uptime.
  - Guaranteed response time.
  - On-site field service technician.
  - On-site spare parts.
  - Periodic refurbishments and overhauls.
  - Critical period standby.
- Implementing an employee suggestion plan to provide rewards for good revenue-generating ideas.



### III DRIVING FORCES AND TRENDS IN FIELD SERVICE FINANCIAL DECISIONS

#### A. EVOLUTION OF FINANCIAL RESPONSIBILITY IN FIELD SERVICE

##### I. THE EARLY YEARS

- Today's startup field service organizations experience financial considerations similar to those which today's mature organizations experienced prior to the early 1960s.
  - Maintenance was completely financed by profits from sales and leases.
  - Early support for new products fell into the same category as marketing and sales expenses required to introduce the products.
    - Heavy investments were expected to be amortized over the first two or three years of a new product's life.
    - Maintenance costs were expected to improve with experience.
  - Field service was either an extension of development and continuation engineering or directly subordinate to the sales organizations in the field.

- Expenses for maintenance were usually a part of the marketing and/or sales support budgets.
- In rare cases the engineering department would budget for product support and cover all maintenance requirements.
- The greatest influence over modern field service organizations has evolved from the earlier organizations that recognized the maintenance function by definition as an extension of marketing.
  - The "total marketing concept" embraced by leading-edge companies in the 1950s defined marketing groups as the personnel who continually influence the marketplace.
  - The maintenance of any product at user locations therefore fell into the working definition of "marketing".
- Earlier maintenance expense budgets by vendors in marketing environments were forecast on the basis of sales and leases of equipment.
  - By 1960, for example, a typical branch office in a large company like IBM was expected to operate a quality field service organization on 6% to 9% of equipment leases plus sales revenues from maintenance agreements on purchased equipment.
  - Subsidies were written off against other company departments for training, spare parts carrying costs, personnel benefits programs, technical support, and general administrative support.
  - Interoffice and interdepartment transfers of expenses were made available for sales shows, technical assistance, and sales changes to installed equipment.

## 2. THE MIDDLE YEARS

- Fully matured field service organizations experienced the first stage of evolution in financial management in the early to mid 1960s.
- It was in 1964, for example, that IBM set up a separate field engineering division to maintain their own data processing equipment.
  - The new structure placed field engineering line organizations parallel to sales from the customer site to the top of the data processing group.
  - The new line organization management became accountable for returning an operating margin from "equivalent maintenance agreement" revenues.
  - Users still paid the lease which "bundled" in the cost of maintenance, but the sales division transferred to field engineering amounts equal to maintenance agreements on equipment purchased.
- During the middle years, field service management became more aware of the concepts of field (direct) margin, various levels of operating margins, and ratio analysis of various expense categories to revenues.
- Pressures began to build not only to control expenses but to collect all revenues due, especially from maintenance agreement customers and from billable service calls.
  - Conflicts between sales and field engineering began to emerge regarding the treatment of users in overtime calls and other special treatment for which the user could be billed.
  - The adjustment of field engineering management to revenue and margin accountability was compounded by the corresponding adjustment of sales management to the fact that the primary purpose of field

engineering no longer appeared to be one of generating new product sales.

### 3. LATER YEARS

- As field engineering organizations mature, the focus on profitability evolves from margins to balance sheets and returns on invested and committed capital.
- Traditional financial management concerns, such as expense controls and collections of receivables, remain.
- New driving forces for the mature field engineering management team include:
  - Methods of generating additional profits from excess capacity of all assets.
  - Productivity of personnel by introduction of capital improvements.
  - Exploitation of the fact that a highly motivated and professional organization exists in areas of business opportunities.
  - Pressures from competition to match quality and price.

### B. TRENDS IN FIELD SERVICE REVENUES

- Responding to the modern driving forces, leading edge field service management is generating revenues and profits by logical extensions of the fundamental maintenance business, such as:
  - Repairs of printed circuit boards for other vendors and users.

- Logistics support and sales of commonly used spare parts to other maintenance vendors.
  - Guaranteed on-site user spares for a premium.
  - Technical support to other maintenance vendors.
  - Third-party maintenance.
  - Guaranteed response time options.
  - Guaranteed uptime options for equipment.
  - Test equipment calibration and repairs.
  - Maintenance of user support hardware such as peripheral switches, uninterruptible power supplies, and microfiche viewers.
  - Software maintenance (principally systems software, but increasingly applications software also).
- Some revenues are being generated through activities closely related to the fundamental business of maintenance, for example:
    - Facilities space planning and environmental designing.
    - Facilities maintenance management contracts for multiple maintenance vendor coordination.
    - Facilities relocation contracts.
    - Training package development and instruction.
    - Development of documentation.

- A few field service organizations are generating revenues by exploiting contacts and credibility within the marketplace through activities such as:
  - Sales of supplies.
  - Sales of complementary hardware such as uninterruptible power supplies and peripheral switches.
- Other possibilities for additional revenues and profits include:
  - Low priority repairs of high-tech commodities like video games and home computers.
  - Management consulting in areas where the company paved the way: setting up a "free port" for spare parts in Europe, for example.
  - Selling turnkey packages of projects implemented by the company such as a field service modeling program or a centralized dispatch system.
  - Basic maintenance of user software.



## IV RESULTS OF USER SURVEY

### A. SCOPE OF RESEARCH

- Data for this study was collected by surveying 83 users of information processing in the U.S.
  - Most of the data was collected from 76 users of data processing equipment.
  - Seven office equipment users were also canvassed to determine if any significant trends existed when compared to data processing users.
  - Most of the major manufacturers of computer and office automation equipment are represented in the survey research material.
  - Many of the users surveyed have multiple vendor installations.
- The survey data is segmented by core systems versus office systems, as shown in Exhibit IV-1.
  - The centralized core systems fell into three categories:
    - Twenty-seven pure sites other than IBM.

## EXHIBIT IV-1

## RESPONDENTS BY TYPE OF EQUIPMENT

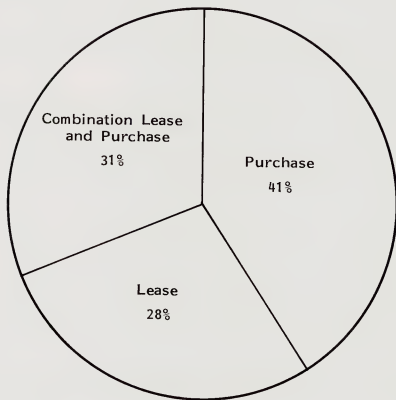
CORE SYSTEMS	NUMBER OF RESPONDENTS
Core (EDP) Systems	
- Burroughs	6
- Datapoint	1
- DEC	2
- General Automation	1
- Hewlett-Packard	3
- Honeywell	6
- Magnuson	1
- NCR	2
- Univac	4
- Wang	1
SUBTOTAL	27
IBM	21
Mixed Systems (more than one principal mainframe vendor represented, including IBM)	28
TOTAL EDP SYSTEMS	76
Peripheral (office automation) Systems	
- IBM	1
- DEC (from EDP interview)	1
- Lanier	1
- Wang (from EDP interview)	1
- Xerox	1
- Decentralized	4
TOTAL OFFICE SYSTEMS	9
TOTAL RESPONDENTS BY SYSTEMS	85

Source: Sample User Survey

- Twenty-one pure IBM sites.
  - Twenty-eight multiple vendor sites.
- Seven exclusive users of office equipment plus two users of both DP and office equipment were surveyed for a total office sample of nine.
- Forty-one percent of the users have purchased all of their equipment, as shown in Exhibit IV-2.
  - Thirty-one percent lease some of their equipment and have purchased part of it.
  - The remaining 28% lease all of their DP and office equipment.
- Data processing managers or directors provided the responses in 87% of the interviews.
  - Vice presidents responded in 10% of the cases.
  - Supervisors represented only 3% of the survey responses.
  - All respondents are involved to some degree in the budgeting process.
- Annual sales of respondent users ranged from \$50 million to \$2 billion.
- Respondent users employed from 1,000 to 5,000 personnel each.
- The majority of respondent users have installed their equipment in controlled environment and process their financial applications on-line.
- The survey is limited to revenue issues from the user perspective.

EXHIBIT IV-2

RESPONDENTS' EQUIPMENT STATUS -  
LEASE OR PURCHASE



Source: Sample User Survey

## B. USER MAINTENANCE BUDGETS IN PERSPECTIVE

### I. TOTAL INFORMATION SYSTEMS BUDGETS

- Data from INPUT's Management Planning Program research indicate that EDP departments budgeted and spent over \$50 billion in 1981, as shown in Exhibit IV-3.
  - Growth has dropped from an average 16% in 1981 to an expected 13% in 1982.
  - Total expenditures by EDP departments are expected to approach \$57 billion for all of 1982.
- Users responding to the survey for this report are slightly more optimistic in projecting 1982 expenditures, as shown in Exhibit IV-4.
  - The sample, slightly skewed toward manufacturing and banking, indicates budget growth of nearly 15% between 1981 and 1982.
  - The respondents of this survey collectively indicated 16.7% growth from 1980 to 1981, essentially the same as the general population of EDP department managers.
  - Four of the ten sectors reported percentage increases in 1982 budgets, exceeding the changes for the previous year, but the relative weights of the larger users bring down the overall average.
- The users' perspective of maintenance expenditures compared to other budget items is most obvious in Exhibit IV-5.

## EXHIBIT IV-3

EDP SPENDING BY INDUSTRY SECTOR  
(\$ billions)

INDUSTRY SECTOR	1981	1982	GROWTH 1981-1982
Discrete Manufacturing	\$13.1	\$15.2	16.0%
Process Manufacturing	6.8	7.7	13.2
Transportation	1.3	1.4	7.7
Utilities	2.6	3.0	15.4
Banking/Finance	5.3	6.2	17.0
Insurance	6.1	6.7	9.8
Education	2.1	2.2	4.8
Distribution	5.0	5.5	10.0
Government	3.6	4.0	11.1
Service and Other	4.5	5.0	11.1
TOTAL	\$50.4	\$56.9	12.9%

Source: INPUT User Panel Industry Surveys

EXHIBIT IV-4

RESPONDENT BUDGET GROWTH  
BY INDUSTRY SECTOR

INDUSTRY SECTOR	ACTUAL INCREASE 1980-1981 (percent)	AVERAGE INCREASE 1981-1982 (percent)
Discrete Manufacturing	+19.1%	+16.9%
Process Manufacturing	+16.6	+14.5
Transportation	+ 8.1	+ 9.2
Utilities	+21.2	+15.8
Banking/Finance	+17.2	+17.0
Insurance	+14.7	+11.8
Education	+ 5.5	+ 6.4
Distribution	+11.5	+12.3
Government	+10.6	+11.3
Service and Other	+12.7	+11.9
Average for All Sectors	+16.7%	+14.8%

Source: Sample User Survey

## EXHIBIT IV-5

EDP BUDGET CHANGES FOR RESPONDENTS  
FROM ALL INDUSTRY SECTORS

BUDGET CATEGORY	PERCENT OF BUDGET	PERCENT CHANGE 1981-1982
Salaries	47.2%	+ 9.9%
EDP Training	0.8	+ 9.9
Non-EDP Training	0.0	+10.7
Central Site Mainframes	11.9	+ 8.1
Central Site Peripherals	6.1	+ 7.0
Remote Site Mainframes	1.1	+ 8.2
Remote Site Peripherals	0.6	+ 5.8
Minicomputers	1.5	+ 8.1
Microcomputers/Personal Computers	nil	+36.7
Terminals	5.3	+15.3
Communications Hardware and Software	1.7	+11.2
Network Expense	1.3	+10.0
Other Software	2.3	+14.9
Vendor Maintenance	5.0	+ 6.9
Third-Party Maintenance	0.5	+ 6.8
Outside Services	1.4	+ 7.2
Data Security	0.1	+16.1
Disaster Planning	0.1	+ 3.3
Supplies and Other	8.9	+ 6.4
Unspecified	4.2	+ 9.3

Source: Sample User Survey



- Respondent users dedicated less than 6% of their 1981 budgets to equipment maintenance, agreeing with the results of a separate INPUT user survey conducted for the Information Systems Program.
- Projected increases in maintenance are less than 7%, clearly indicating that budgeted maintenance falls below 5% of the total EDP budget for 1982.
- This relative significance of maintenance budgeting is consistent with a 1981 survey conducted for a separate study.
  - INPUT conducted a survey of 240 users for its Management Planning Program.
  - Users were asked to rank the relative significance of 20 management concerns.
  - As shown in Exhibit IV-6, maintenance ranked near the bottom at an average of 17th.

## 2. USER HARDWARE MAINTENANCE BUDGETS

- The average annual maintenance expense for users is \$130,000.
  - Exclusive IBM users spend an average of \$125,000 annually on hardware maintenance.
  - Users with multiple vendor shops have annual maintenance costs of \$190,000.
  - Hardware maintenance expenses for single vendor users of non-IBM equipment vary considerably, as shown in Exhibit IV-7.

## EXHIBIT IV-6

## RANKING OF USER CONCERNS BY INDUSTRY\*

PROBLEM	DISCRETE MANUFACTURING	PROCESS MANUFACTURING	TRANSPORTATION AND UTILITIES	BANKING AND FINANCE	INSURANCE	DISTRIBUTION	EDUCATION
Long-Range Business Objectives	4	6	14	9	1	5	9
Long-Range EDP Objectives	1	2	6	1	2	2	1
Relations with Management	12	6	3	5	4	11	6
Relations with End Users	3	2	3	2	3	3	3
Data Center Operations	16	14	19	9	6	7	9
Project Planning	8	12	1	9	4	7	6
Project Scheduling - Estimating	8	18	14	20	10	11	12
Project Scheduling - Priorities	6	6	11	15	6	11	12
Systems Development Specifications	10	16	6	15	10	7	2
EDP Budget	15	4	6	15	10	3	3
Personnel Recruiting	5	4	6	5	10	7	6
Personnel Training	11	14	19	3	10	15	12
Personnel Retention	7	11	14	3	18	7	9
Personal Productivity	2	1	2	9	6	1	12
Hardware Capacity (CPU)	12	6	3	5	6	11	3
Hardware Capacity (Disk)	19	16	14	9	10	5	12
Hardware Maintenance	20	19	14	15	18	15	19
System Software	16	6	11	8	18	15	12
Network Facilities	12	12	20	15	10	15	12
Other	18	20	19	9	10	20	19

\* 1 = Most Significant Concern

Source: INPUT User Panel Surveys

# EXHIBIT IV-7

## AVERAGE ANNUAL MAINTENANCE EXPENDITURES IN SINGLE VENDOR ENVIRONMENTS

NON-IBM SINGLE VENDOR USERS	AVERAGE ANNUAL MAINTENANCE EXPENDITURES
Burroughs	\$152,500
Datapoint	24,000
Digital Equipment Corp.	54,000
General Automation	7,200
Hewlett-Packard	115,000
Honeywell	145,000
Magnuson	6,000
Univac	66,000

Source: Sample User Survey

- Eighty-one percent of the respondents stated that there have been no corporate directives to cut maintenance budgets during 1982.
- The majority of users currently require extended hours of maintenance beyond the principal period.
  - Sixty-five percent of non-IBM users spend an average of \$8,000 annually on extra shift maintenance coverage.
  - The average IBM user is spending nearly \$30,000 per year on extended coverage.
  - Forty-three percent of the users who were forced to make budget cuts in maintenance made the cuts in extended shift coverage.
- Twenty-five percent of the respondent users said that they have a field engineer on-site.
  - Only two of the users surveyed admitted to paying a premium for having an on-site field engineer: one paid 25% and the other 10% for the benefit.
  - Other users either did not know if some premium was imbedded in the total equipment cost or stated that the on-site service was included in the contract.
- Twenty-four percent of the respondents are either currently using third-party maintenance, or seriously considering it as an alternative.
  - Nineteen percent of the non-IBM users are now using third-party maintenance, and 4% are planning to use it.
  - Eleven percent of the IBM users are taking advantage of third-party maintenance while 5% are considering the alternative.

- Users, especially in remote locations, indicated a willingness to perform some maintenance activities.
  - Thirteen percent of the non-IBM respondents reported that they perform some maintenance activities.
  - None of the pure IBM users reported that they get involved in maintenance beyond assistance in problem determination.

### 3. SOFTWARE MAINTENANCE BUDGETS

- Sixty percent of the respondents reported software maintenance budgets averaging \$67,000 per year, slightly more than half the average hardware maintenance budgets.
- A significant difference was reported between the average software maintenance budgets for IBM users and other users.
  - Non-IBM users averaged \$94,000 per year for software maintenance.
  - IBM users, on the other hand, reported only \$21,000 in software maintenance expenses.
- Eighty-two percent of the respondents agreed that the majority of the software maintenance activity is in applications software.
- A number of respondents spend an average of \$80,000 on in-house software enhancements which they consider the borderline between development and maintenance.
  - The respondents to this survey tended to agree with the survey results discussed in a recent INPUT Field Service Program publication, Software Maintenance Planning, regarding the definition of software maintenance.

- All agree that basic fixes to correct software to design specifications are included in the maintenance function.
- Fewer respondents include mandatory changes, conversions, upgrading installations, periodic modifications and fixes, debugging, and enhancements as maintenance functions.
- The reader is referred to Software Maintenance Planning for a more thorough discussion of the subject.

#### 4. TRAINING BUDGETS

- Respondent users budgeted an average of \$34,000 for training.
  - IBM users spend an average of \$50,000 on training.
  - Non-IBM users and users with mixed systems averaged \$27,000 per year.
  - Out-company training expenditures are primarily for seminars and courses provided by DP training organization such as Deltak, Edutronics and ASI.

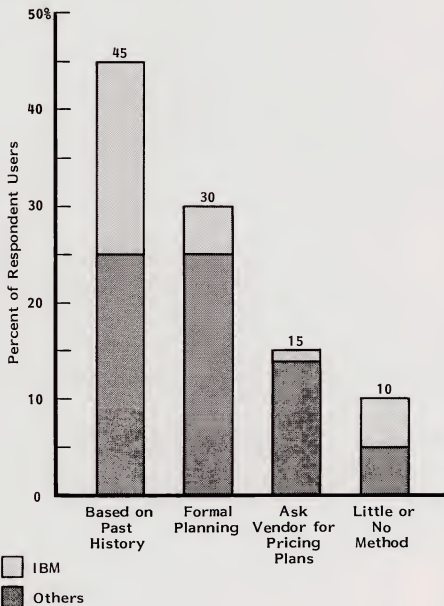
### C. USER MAINTENANCE PLANNING CONSIDERATIONS

#### 1. MAINTENANCE BUDGETING METHODS

- Fewer than one-third of the respondents reported using a formal planning method as the source of maintenance budgeting information, as shown in Exhibit IV-8.
  - Ten percent of the respondents reported that they had no defined sources for budgeting information.

EXHIBIT IV-8

HOW USERS BUDGET FOR MAINTENANCE -  
SOURCE OF INFORMATION



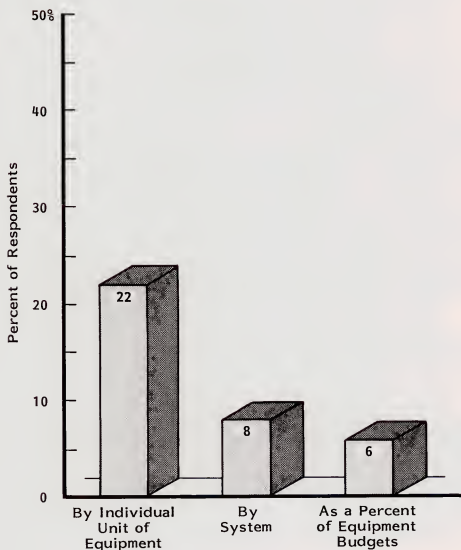
Sample: 62 Users

- Sixty percent of the respondent users indicated a complete dependency on maintenance vendors when forecasting maintenance expenses.
  - Forty-five percent relied on historical trends as established by vendors.
  - Another 15% simply contact the maintenance vendors and ask what the prices are going to be for the period of time in question.
- Only 36% of the respondents reported taking the next step in maintenance budgeting and applying a tracking method for expense controls.
  - As shown in Exhibit IV-9, 22% of the respondents track maintenance expenses by equipment unit.
  - Eight percent of the users budget by system.
  - Six percent of respondents reported that they track maintenance costs as a predetermined ratio of total equipment purchase price or cost of owning the equipment.
- When asked about cost accounting methods for charging pro rata costs of maintenance to other departments, respondent users of IBM equipment reflected a mirror image of non-IBM users, as shown in Exhibit IV-10.
  - The user community is almost equally divided on the question of absorbing maintenance costs into general overhead versus cost accounting.
  - Determining whether cost accounting is used for recapture of maintenance costs has more to do with the general accounting philosophy of the enterprise than with maintenance considerations.



EXHIBIT IV-9

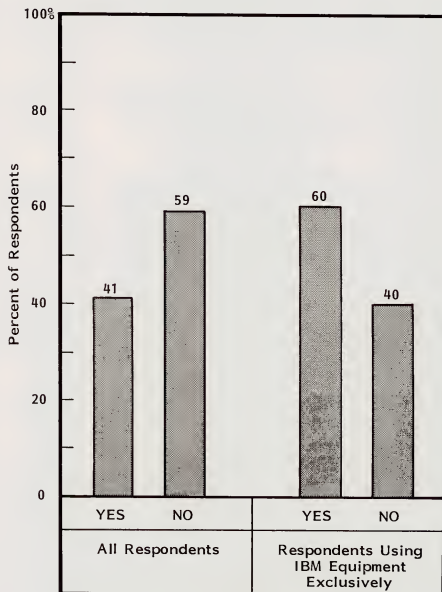
HOW USERS BUDGET FOR MAINTENANCE -  
METHOD USED



Source: Sample User Survey

# EXHIBIT IV-10

DOES YOUR FIRM CHARGE BACK MAINTENANCE COSTS  
WITHIN YOUR ORGANIZATION?



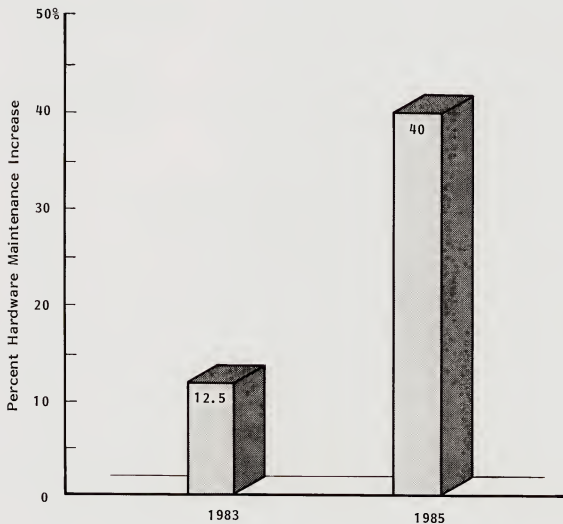
Source: User Sample Survey

## 2. MAINTENANCE BUDGETING TRENDS

- Although users earlier planned for less than a 7% increase in hardware maintenance expenses for 1982, they are now predicting a 12.5% increase for 1983, as shown in Exhibit IV-11.
  - Respondent users also predicted a compound growth rate of 12% in maintenance budgets resulting in a total increase by 1985 of 40% over 1982.
  - Users see the maintenance business remaining labor-intensive through the middle of the decade.
  - A minority opinion expressed by 8% of the respondents was that short-term maintenance costs would decrease by 20% to 40% of the 1982 base. The minority opinions were based on the following assumptions:
    - Products are becoming more reliable, hence less maintenance should be required.
    - Improved maintenance techniques are being implemented by vendors which are improving productivity and lowering costs to vendors.
    - Users will practically eliminate extended shift coverage and exercise management judgment about calls for hourly rates versus waiting until prime shift for remedial maintenance.
    - The 8% minority was reluctant to predict the long-term effect of maintenance cost reductions.
- Users predicted a slower growth in software maintenance budgeting, as shown in Exhibit IV-12.

EXHIBIT IV-11

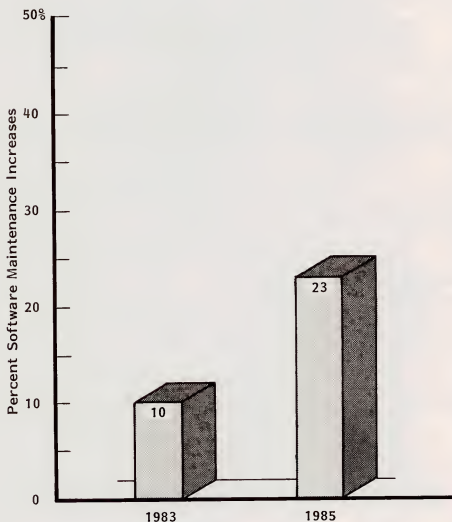
EXPECTATIONS OF HARDWARE MAINTENANCE  
PRICE INCREASES OVER 1982 RATES



Sample: Averages based on 60 respondents and using 1982 as a baseline

EXHIBIT IV-12

USER EXPECTATIONS OF CHANGES IN  
SOFTWARE EXPENDITURES\*



\* Averages, based on 19 respondents

- Although the growth rate for software maintenance from 1981 to 1982 exceeded hardware maintenance growth, it is predicted by respondents to be lower (23% versus 40%) during the 1983-to-1985 period.
- Only 25% of the users responded with predictions about software maintenance budgets.
- The reader is referred to INPUT's companion Field Service Program publication, Software Maintenance Planning, in which a broader survey indicates a growth rate of over 40% in software maintenance expenses for the same period.
- Respondent users replied that training budgets would most likely remain stable for the next few years.

#### D. POTENTIAL REVENUE OPPORTUNITIES

##### I. HARDWARE MAINTENANCE

- Twenty-two percent of the respondent users indicated that they would be willing to pay a premium for new and/or improved services.
  - High on the users' list of improvements they would pay for are improved response times, guaranteed response times and better trained field engineers, as shown in Exhibit IV-13.
  - Users remain concerned enough about parts availability to indicate a willingness to share the costs of carrying extra inventories.
  - Respondent users also appear to realize that it is more costly to the vendor to guarantee that the same person will return for every service

# EXHIBIT IV-13

## USER WILLINGNESS TO PAY FOR IMPROVEMENTS IN HARDWARE MAINTENANCE

SERVICE IMPROVEMENT	USER WILLING TO PAY
1. Accelerated Response Time	Yes
2. Guaranteed Response Time	Yes
3. Better Trained Technicians	Yes
4. Faster Repair Times	No
5. Better Parts Availability	Yes
6. Better Continuity of Coverage and Assigned FEs	Yes
7. Less Profitability for all Suppliers	No
8. Field Development and Customer Status Meetings	No
9. Better Extended Coverage	No
10. Combine Hardware and Software Maintenance	No
11. Individual Service Account Manager	Yes
12. More Management Level Concern in Assigning Problems	No
13. Better Diagnostic Tools	No
14. More Service Manager Involvement	No

Source: Sample User Survey

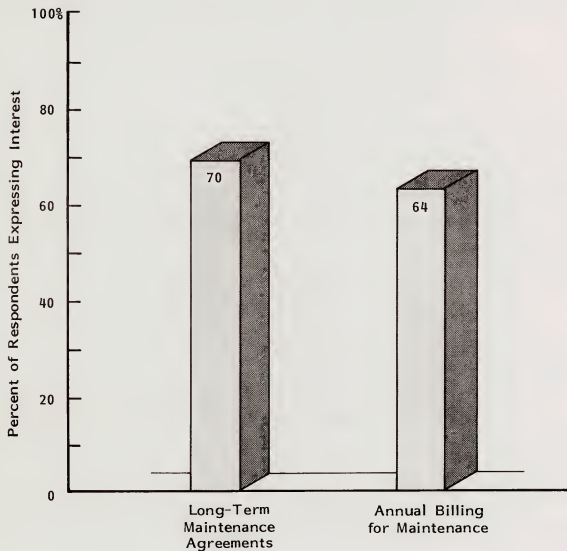
call. They indicated a willingness to pay a premium, however, because they desire consistency.

- Thirty-three percent of the respondent users expressed the belief that remote diagnostics and support centers improve service and justify additional charges. One user even commented that a surcharge of 2% to 10% would be reasonable for incorporating remote diagnostics.
- Seventy percent of the respondents favored a long-term maintenance contract, as shown in Exhibit IV-14.
  - The incentive for users is the capability of predicting installed equipment maintenance costs more accurately.
  - The incentive for the vendor is the protection of installed revenue bases.
- Another 64% of respondents favored annual prepaid billing for maintenance contracts.
  - Vendors could use cash and interest from unearned income accounts for eleven additional months.
  - Considerable clerical savings from reducing the number of billing cycles would be available.
- Fifty-eight percent of the equipment maintained by third-party organizations is installed in multiple vendor environments.
  - The best opportunities for third-party maintenance occur when users are faced with multiple maintenance policies and standards.
  - The next best opportunity is in pure, non-IBM environments where 32% of third-party maintenance is concentrated.



EXHIBIT IV-14

FINANCIAL OPPORTUNITIES  
IN FIELD SERVICE



Source: Sample User Survey

- The pure IBM installations are the most difficult to sell on third-party maintenance.
- Twenty-five percent of the respondent users of IBM and 29% of the non-IBM users indicated potentially strong resistance to any attempts to raise the maintenance rates for extra shifts, overtime, or time-and-material calls. The remainder would acquiesce to increases while making adjustments to avoid extra shifts or overtime service.

## 2. SOFTWARE MAINTENANCE

- Software maintenance budgets are growing more rapidly than are hardware maintenance budgets.
- Field service organizations with the expertise have significant opportunities to use the idle time of in-place specialists for basic software fixes.
- The broader definition of software maintenance, which includes upgrades and product enhancements, defines a set of tasks outside the capability of field service organizations.
- Readers interested in pursuing opportunities in software maintenance are referred again to the publication, Software Maintenance Planning.

## 3. TRAINING

- There are opportunities for additional revenues from user training for those field service organizations with committed fixed costs in training.
- Field service departments with documentation development capabilities can expand volume for variable costs.

- Training aid development is another area with high capital commitments and slack capacity which could be turned into profits.
- The willingness of some users to become involved in maintenance creates needs for training. The returns could be direct in the form of tuition or indirect through cost savings from user involvement in maintenance activities.
- Professional training staffs are qualified to provide professional instructors, training outline development, and general logistical consulting in training requirements.



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- Selling Personal Computers to Large Corporations
- Improving the Productivity of Systems and Software Implementation
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- Improving the Productivity of Engineering and Manufacturing Using CAD/CAM

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- Determination of the U.S. market for small computer systems in 1985.
- Analysis of the opportunities and problems associated with field service capabilities for CAD/CAM systems.
- Analysis of the market potential for third-party maintenance.
- 1981 ADAPSO Survey of the Computer Services Industry.
- Evaluation of the current status and future trends of software terms and conditions.
- Analysis and forecast of user self-maintenance for a vendor's line of equipment.

## ABOUT INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

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Formed in 1974, INPUT has become a leading international consulting firm. Clients include over 100 of the world's largest and most technically advanced companies.

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